ACC.14
TCT@ACC-i2 | innovation in intervention

A2078
JACC April 1, 2014
Volume 63, Issue 12

Vascular Medicine

CELL THERAPY IN THE TREATMENT OF CRITICAL LOWER LIMB ISCHEMIA

Poster Contributions
Hall C
Saturday, March 29, 2014, 3:45 p.m.-4:30 p.m.

Session Title: Peripheral Artery Disease
Abstract Category: 32. Vascular Medicine: Non Coronary Arterial Disease
Presentation Number: 1139-76

Authors: *Volodymyr G. Mishalov, Nataliya Litvinova, National Medical University, Kyiv, Ukraine*

Background: In recent years, the role of cell therapy in the treatment of patients with atherosclerotic severe lower limb ischemia is increased. The aim of our study was to compare the efficacy of non-viral fibroblast grow factor (NV1FGF) and autologous adipose stem cells (ASC) derived from subcutaneous fat in patients with severe critical limb ischemia (CLI).

Methods: The study included 24 patients with CLI and unreconstructable distal arterial segments or anatomical and functional incompetence of collaterals. Patients were divided into 2 groups, 12 in each. The first group of 12 patients received NV1FGF by cheme - 8 intramuscular injections into a muscle of the affected limb (4 in thigh, 4 in shin) three times with weekly intervals. Patients from 2 group received own ASC after its isolation and cultivation in the laboratory; three times intramuscularly at 8 points , twice in four points on the tibia and intravenously in saline with intervals of 2 week.

Results: In both groups, there was a trend to an increase in walk pain-frees distance more than 120 %. Also in both groups showed a trend toward a gradual reduction in rest pain intensity (on average 4,56 ± 2,07 cm) , the laser dopplerography (LDG) revealed a significant difference in increased basic index after treatment in 2 clinical groups to 55.12 % versus 30.14 % in the 1 group. ABI index increased in the 2nd group at 15.41% versus 7.8% in first group. Patients from 2d group registered decrease in the ulcers area more than 50 %, versus 20-30 % in the 1st group, although healing was slower. The number of major adverse events was higher in 1st group patients - 3 high amputation of the lower limb, 2 minor amputations; in the second group for the follow-up period (up to 2 year) amputations were not. Standart treatment included LMWH introduction.

Conclusions: Both NV1FGF, and autologous mesenchymal cells introduction reduces rest pain, skin necrotic lesion area, increase pain-free walking distance, the physical component of health. The introduction of ASC can significantly reduce the number of amputations in patients with CLI.